In re Patent Application of:
OCKENFUSS ET AL
Serial No. **10/785,384**
Filed: **02/23/2004**

Amendments to the Claims

1. (original) An infrared filter comprising:

a substrate

an optical filter stack disposed on a first surface of the substrate, the optical filter stack including

a plurality of dielectric layers, and

a plurality of metal layers alternating with the dielectric layers; and

a transmission-enhancing coating, wherein the infrared filter obtains an average transmission greater than or equal to 75% between 400 nm and 600 nm.

2. (original) The infrared filter of claim 1 wherein the metal layers comprise silver and further comprising a plurality of corrosion suppression layers disposed between the dielectric layers and the metal layers.

3. (original) The infrared filter of claim 2 wherein the metal layers comprise a first metal having a first galvanic potential and the corrosion suppression layers include a second metal having a second galvanic potential, the second galvanic potential being greater than the first galvanic potential.

4. (original) The infrared filter of claim 1 wherein the average transmission is not less than 80% between 400 nm and 600 nm.

5. (original) The infrared filter of claim 1 wherein the dielectric layers comprise Nb_2O_5, and the metal layers comprise silver.

6. (original) The infrared filter of claim 5 further comprising a plurality of ZnO layers disposed between the Nb_2O_5 layers and the metal layers.

7. (original) The infrared filter of claim 6 wherein each of the plurality of ZnO layers is about 1-10 nm thick.

8. (original) The infrared filter of claim 1 wherein the transmission-enhancing coating is an anti-reflective coating.

9. (original) The infrared filter of claim 1 further comprising a blur filter disposed between the transmission-enhancing coating and a second surface of the substrate.

10. (original) The infrared filter of claim 1 wherein the substrate comprises a birefringent material.

11. (original) The infrared filter of claim 1 wherein the infrared filter comprises a lid to a photodetector assembly, a photodetector array being disposed inside a package of the photodetector assembly.

12. (withdrawn) A method of fabricating an optical filter on an optical substrate comprising:

depositing a first dielectric layer having a first selected thickness;

depositing a first corrosion-suppressing layer on the first dielectric layer;

depositing a metal layer having a second selected thickness on the first corrosion-suppressing layer;

depositing a second corrosion-suppressing layer on the metal layer; and

depositing a second dielectric layer having a third selected thickness on the second corrosion-suppressing layer.

13. (withdrawn) The method of claim 12 wherein the first corrosion-suppressing layer and the second corrosion-suppressing layer comprise a metal oxide.

14. (withdrawn) The method of claim 13 wherein the metal oxide is zinc oxide.

15. (withdrawn) The method of claim 13 wherein the first corrosion-suppressing layer is less than about 10 nm thick.

16. (withdrawn) The method of claim 12 wherein the step of depositing the second corrosion-suppressing layer includes steps of:

depositing a metal portion of the second corrosion-suppressing layer on the second metal layer;

depositing a metal oxide portion of the second corrosion-suppressing layer on the metal portion of the second corrosion-suppressing layer.

17. (withdrawn) The method of claim 16 further comprising a step of at least partially oxidizing the metal portion of the second corrosion-suppressing layer.

18. (withdrawn) The method of claim 12 wherein the metal layer is a silver or silver alloy layer.

19. (withdrawn) The method of claim 12 wherein the metal layer is less than 25 nm thick.

20. (withdrawn) The method of claim 12 further comprising steps, prior to the step of depositing a first dielectric layer, of:

depositing a metal layer on the optical substrate; and

depositing a corrosion-suppressing layer on the metal layer.

21. (withdrawn) The method of claim 12, after the step of depositing the second dielectric layer, of thermally treating the optical filter at a temperature above 200 °C.

22. (new) An optical filter as defined in claim 1, wherein a first corrosion-suppressing layer separates one of the dielectric layers from a metal layer, and wherein a second corrosion-suppressing layer separates another of the dielectric layers from said metal layer.

23. (new) An optical filter as defined in claim 22 wherein the stack of layers are of the form D1/C1/M1/C2/D2, wherein D1 is a first dielectric layer, C1 is a first corrosion-suppressing layer, M1 is a first metal layer, C2, is a second corrosion-suppressing layer, D2 is a second dielectric layer.

24. (new) The infrared filter of claim 22 wherein the dielectric layers comprise Nb_2O_5.

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25. (new) The infrared filter of claim 22 wherein the metal layers comprise silver.

26. (new) The infrared filter of claim 23 wherein the first corrosion-suppressing layer and the second corrosion-suppressing layer comprise a metal oxide.

27. (new) The filter of claim 26 wherein the metal oxide is zinc oxide.

28. (new) The infrared filter of claim 27 wherein each of the plurality of ZnO layers is about 1-10 nm thick.

29. (new) The filter of claim 26 wherein the first corrosion-suppressing layer is less than about 10 nm thick.

30. (new) The filter of claim 12 wherein the metal layer is a silver or silver alloy.

31. (new) The filter of claim 12 wherein the metal layer is less than 25 nm thick.

32. (new) The infrared filter of claim 23 wherein the second corrosion-suppressing layer includes a metal portion on the metal layer M1, and a metal-oxide portion on the metal portion of the second corrosion-suppressing layer.

33. (new) The infrared filter of claim 1, wherein the optical filter has been thermally treated at a temperature above 200C.